Notice of Allowability	Application No.	Applicant(s)	
	10/689,576	ALESSI, DARIO RENATO	
	Examiner	Art Unit	
	Delia M. Ramirez	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *9/5/2007*.

2. ☒ The allowed claim(s) is/are *1-3,5-8,16,18-20,22-28 and 30-32*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☒ Certified copies of the priority documents have been received in Application No. *08/943,667* .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Status of the Application

Claims 1-3, 5-8, 10-16, 18-35 are pending.

Amendment of claims 1-3, 5, 28 and cancellation of claim 9 as submitted in a communication filed on 9/5/2007 is acknowledged.

Claims directed to the elected product have been found allowable. Thus, in accordance with MPEP 821.04, method claims which require all the limitations of the allowable product claim will be rejoined. The restriction requirement between product claims 1-3, 5-8, 28, 30-32 and claims 16, 18-29 is hereby withdrawn. Claims 1-3, 5-8, 16, 18-32 are at issue and are being examined herein. Claims 10-15, 33-35 are directed to a non-elected product and will not be rejoined.

In a telephone conversation with Ms Karla Weyand on 10/11/2007, an agreement was reached to amend claims 2, 5-8, 16, 18-20, 22-28, 30-32 and cancel claims 10-15, 21, 29, 33-35 to place the application in condition for allowance.

Examiner's Amendment

1. An informal Examiner's amendment to the specification appears below. This amendment is to update the status of prior application(s) in the first sentence of the specification.

2. Please enter the following amendments to the specification as follows:

3. On page 1, immediately after the title, please insert the following sentence:

This application is a continuation of U.S. Patent Application Serial No. 08/943,667 filed October 3, 1997, now U.S. Patent No. 6734001.

4. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. Authorization for this Examiner's amendment was given in a telephone interview with Ms Karla Weyand on 10/11/2007.

6. Please cancel claims 10-15, 21, 29, 33-35.

7. Please replace claims 2, 5-8, 16, 18-20, 22-28, 30-32 as follows:

2. The substantially pure human 3-phosphoinositide-dependent protein kinase according to claim 1, wherein the 3-phosphoinositide-dependent protein kinase has a molecular weight of about 67 kDa as determined by sodium dodecyl sulphate polyacrylamide gel electrophoresis.

5. The substantially pure human 3-phosphoinositide-dependent protein kinase according to claim 1 wherein the 3-phosphoinositide-dependent protein kinase is a phosphatidylinositol-3,4,5-trisphosphate-dependent protein kinase.

6. The 3-phosphoinositide-dependent protein kinase according to claim 1 which activates protein kinase Bα in the presence of the D-enantiomer of *sn*-1-stearoyl-2-arachidonyl phosphatidylinositol 3,4,5-trisphosphate but does not activate protein kinase Bα in the presence of the L-enantiomer of the said phosphatidylinositol 3,4,5-trisphosphate.

7. The 3-phosphoinositide-dependent protein kinase according to claim 1 which is activated by the D-enantiomer of *sn*-1,2-dipalmitoyl phosphatidylinositol 3,4,5-trisphosphate or *sn*-1,2-

dipalmitoyl phosphatidylinositol 3,4-bisphosphate but is not activated by the L-enantiomers of the said phosphatidylinositol phosphates.

8. The 3-phosphoinositide-dependent protein kinase according to claim 1 which is not activated by phosphatidylinositol 3,5-bisphosphate or phosphatidylinositol 4,5-bisphosphate or phosphatidylinositol 4-phosphate or phosphatidylinositol 3-phosphate or inositol 1,3,4,5-tetrakisphosphate.

16. A method of isolating the 3-phosphoinositide-dependent protein kinase according to claim 1, the method comprising the steps of (a) obtaining material that contains said 3-phosphoinositide-dependent protein kinase, (b) obtaining cell free extracts from said material which contain said 3-phosphoinositide-dependent protein kinase, (c) fractionating said cell free extract, and (d) selecting a fraction from step (c) which is capable of phosphorylating and activating protein kinase Bα in the presence of a 3-phosphoinositide.

18. A method of identifying a compound that modulates the activity of a 3-phosphoinositide-dependent protein kinase, the method comprising:

contacting a compound with the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity or a fusion protein comprising said fragment, and

determining whether, in the presence of said compound, phosphorylation and activation of a protein kinase B or phosphorylation of a p70 S6 kinase is changed compared to the

phosphorylation and activation of a protein kinase B or phosphorylation of a p70 S6 kinase in the absence of said compound.

19. The method according to claim 18 wherein the compound decreases the activity of the 3-phosphoinositide-dependent protein kinase.

20. The method according to claim 18 wherein the compound increases the activity of the 3-phosphoinositide-dependent protein kinase.

22. The method according to claim 18 wherein the compound prevents activation of protein kinase Bα in the presence of phosphatidylinositol-3,4,5-trisphosphate or phosphatidylinositol-3,4-bisphosphate.

23. The method according to claim 18 wherein the compound modulates the activity of the 3-phosphoinositide-dependent protein kinase by binding to protein kinase Bα and preventing phosphorylation and activation of protein kinase Bα by the 3-phosphoinositide-dependent protein kinase.

24. A method of identifying a compound that mimics the effect of a 3-phosphoinositide on a 3-phosphoinositide-dependent protein kinase, the method comprising determining whether said compound activates the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity or a fusion protein comprising said fragment so that it can phosphorylate and activate a protein

kinase B or phosphorylate a p70 S6 kinase, the activation by said compound being in the absence of a phosphatidylinositol-3,4,5-trisphosphate or a phosphatidylinositol-3,4-bisphosphate or another 3-phosphoinositide.

25. The method according to claim 24 wherein the 3-phosphoinositide is phosphatidylinositol-3,4,5-trisphosphate or phosphatidylinositol-3,4-bisphosphate.

26. A method of screening for compounds which modulate the activity of the 3-phosphoinositide-dependent protein kinase according to claim 1, or a fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity or a fusion protein comprising said fragment, or compounds which modulate their interactions with a 3-phosphoinositide or with a protein kinase B, wherein said screening comprises:

contacting a compound with the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity or a fusion protein comprising said fragment and

selecting compounds which modulate the activity of said 3-phosphoinositide-dependent protein kinase according to claim 1 or a fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1 or a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity or a fusion protein comprising said fragment.

27. A method of activating a protein kinase B the method comprising contacting said protein kinase B with the 3-phosphoinositide-dependent protein kinase according to claim 1.

28. A kit comprising the substantially pure human 3-phosphoinositide-dependent protein kinase according to claim 1, a fusion protein comprising said 3-phosphoinositide-dependent protein kinase, a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity, or a fusion protein comprising said fragment.

30. A fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 1, a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity, or a fusion protein comprising said fragment.

31. The substantially pure 3-phosphoinositide-dependent protein kinase according to claim 1 wherein the protein kinase comprises amino acids 52-556 of SEQ ID NO:1 or amino acids 52-556 of SEQ ID NO:1 with from 1 to 4 conservative substitutions therein.

32. The fusion protein comprising the 3-phosphoinositide-dependent protein kinase according to claim 31, a fragment of said fusion protein having 3-phosphoinositide-dependent protein kinase activity, or a fusion protein comprising said fragment.

Reasons for Allowance

8. The following is an Examiner's statement of reasons for allowance. Although the prior art discloses human protein kinases, the Examiner has found no teaching or suggestion in the prior art directed to the polypeptide of SEQ ID NO: 1 or a protein kinase which comprises (1) amino acids 83-342 and amino acids 450-550 of SEQ ID NO: 1, or (2) amino acids 52-556 of SEQ ID NO: 1. Therefore, claims 1-3, 5-8, 16, 18-20, 22-28, 30-32, directed to (A) variants of the polypeptide of SEQ ID NO: 1

wherein said variants (1) comprise amino acids 83-342 and amino acids 450-550 of SEQ ID NO: 1, (2) comprise amino acids 52-556 of SEQ ID NO: 1, (3) differ from the polypeptide of SEQ ID NO: 1 solely by 1-4 conservative amino acid substitutions, (4) differ from the polypeptide of (2) solely by 1-4 conservative amino acid substitutions, and (B) methods of use of the polypeptides of (A) are allowable over the prior art of record.

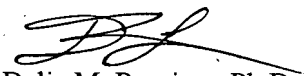
Conclusion

9. Claims 1-3, 5-8, 16, 18-20, 22-28, 30-32 are allowed.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (571) 272-0938. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (571) 272-0928. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.



Delia M. Ramirez, Ph.D.
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Art Unit 1652

DR
October 12, 2007